

WHAT IS CLAIMED IS:

1.. A semiconductor physical quantity sensor that converts digital data into analog data for digital trimming in response to a signal from a sensor circuit indicating that an analog quantity has been detected, the semiconductor physical quantity sensor comprising:

digital input/output pads that have undergone digital trimming in order to obtain a predetermined output; wherein pads that are pulled down to a ground inside a semiconductor chip and a ground pad are electrically connected to a ground terminal outside said semiconductor chip, and

wherein pads that have been pulled up to a power supply inside a semiconductor chip and a power supply pad are electrically connected to a power supply terminal outside said semiconductor chip.

2. The semiconductor physical quantity sensor according to Claim 1, wherein the connections between the pads that have been pulled down inside the semiconductor chip and the ground terminal as well as the connections between the pads that have been pulled up inside the semiconductor chip and the power supply terminal are each established by electrically connecting the terminals together on a package.

3. The semiconductor physical quantity sensor according to Claim 1, wherein the connections between the pads that have been pulled down inside the semiconductor chip and the ground terminal as well as the connections between the pads that have been pulled up inside the semiconductor chip and the power supply terminal are each established by an electric connection on a mounting substrate.

4. The semiconductor physical quantity sensor according to any of Claims 1 to 3, wherein as a layout on said semiconductor chip, of the digital input/output pads, the pads that have been pulled down inside said semiconductor chip are arranged closer to the ground pad, and the pads that have been pulled up inside said semiconductor chip are arranged closer to the power supply pad.

5. The semiconductor physical quantity sensor according to any of Claims 1 to 3, wherein the semiconductor physical quantity sensor is a pressure or an acceleration sensor of the semiconductor strain gauge type.

6. A semiconductor physical quantity sensor comprising:  
a semiconductor chip placed on at least one of a resin case and a substrate via a pedestal, and  
wherein both first pads in said semiconductor chip which are to be pulled down and a ground pad are  
electrically connected to a ground outside said semiconductor chip.

7. The semiconductor physical quantity sensor according to Claim 6, wherein characterized in that both  
second pads in said semiconductor chip which are to be pulled up and a power supply pad are electrically  
connected to a power supply outside said semiconductor chip

8. A semiconductor physical quantity sensor comprising:  
a semiconductor chip placed on at least one of a resin case and a substrate via a pedestal, and  
wherein both second pads in said semiconductor chip which are to be pulled up and a power supply pad  
are electrically connected to a power supply outside said semiconductor chip.

9. A semiconductor physical quantity sensor comprising:  
a semiconductor chip placed on a resin case via a pedestal, said resin case including lead frames that are  
insert-molded, and within said resin case are formed both a ground-connecting external wire through which a  
ground pad of said semiconductor chip and first pads to be pulled down are electrically connected, and an  
power-supply-connecting external wires through which a power supply pad of said semiconductor chip and  
second pads to be pulled up are electrically connected;  
wherein said ground-connecting external wire is connected to a ground lead frame, whereas said  
power-supply-connecting external wire is connected to a power supply lead frame.

10. The semiconductor physical quantity sensor according to Claim 9, wherein said ground-connecting  
external wire and said power-supply-connecting external wire are each connected to corresponding lead frames  
outside said resin case

11. The semiconductor physical quantity sensor according to Claims 9 to 10, wherein said

ground-connecting external wire and said ground lead frame are integrated, and said power-supply-connecting external wire and said power supply lead frame are integrated

12. A semiconductor physical quantity sensor comprising:

a conductor pattern for ground connections, a conductor pattern for power supply connections, and an output conductor pattern are formed on a substrate;

wherein lead frames corresponding to a ground pad of a semiconductor chip placed on a resin case and first pads thereof which are to be pulled down are connected to said conductor pattern for ground connections; and

wherein lead frames corresponding to a power supply pad of said semiconductor chip and second pads thereof which are to be pulled up are electrically connected to said conductor pattern for power supply connections, and

wherein output lead frame corresponding to an output pad of said semiconductor chip is electrically connected to the output conductor pattern.

13. The semiconductor physical quantity sensor according to Claim 4, wherein the semiconductor physical quantity sensor is a pressure or an acceleration sensor of the semiconductor strain gauge type.